jSTATE OF CALIFORNIA

Energy Resources Conservation
And Development Commission

In the Matter of:	)	Docket No. 00-AFC-14
	)	
Application for Certification	)	
of the **EL SEGUNDO POWER**	)	**STAFF'S OPENING BRIEF**
REDEVELOPMENT PROJECT	)	
	)	
_____	)	

In accordance with the "Briefing Order" issued on March 19, 2003 by the assigned Committee in this matter (Commissioner Robert Pernell, Presiding, and Commissioner William Keese), the Energy Commission Staff hereby tenders its "Opening Brief" in this siting case proceeding.

The assigned Committee conducted duly noticed evidentiary hearings in this matter on February 18th through 20th, 2003, in El Segundo, California. At those hearings, the primary substantive issues in controversy between the Staff, Intervenors and the Applicant (El Segundo Power II LLC) concerned "Biological Resources" and related matters concerning cooling water "Alternatives." In addition, certain Intervenors also litigated specific issues concerning the topics of "Air Quality," "Public Health," and "Socioeconomics." All other substantive topics in this proceeding are uncontested and were received into evidence by the Committee based on written testimony alone, as stipulated to by the parties.

In this Opening Brief, Staff will first address the contested issues concerning "Biological Resources" and related cooling water "Alternatives." Thereafter, we will address the remaining substantive issues that were contested by other parties in this proceeding.

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I. THIS PROJECT WILL CAUSE SIGNIFICANT ADVERSE BIOLOGICAL IMPACTS IN VIOLATION OF CEQA AND OTHER APPLICABLE LAWS

A. Introduction

The factual evidence in this case is clear, compelling and largely undisputed. As the brief below will document, Santa Monica Bay and its surrounding waters are a highly valued but seriously impaired natural resource in California. Many of the fish populations and other marine organisms inhabiting this region are experiencing dramatic, long-term declines across a wide-range of species.

The Applicant now proposes to build a power plant project that will withdraw extremely large volumes of "once-through" cooling water directly from Santa Monica Bay each year, and for many years to come, thereby entraining, impinging and otherwise adversely impacting enormous numbers of marine organisms *each year*. The proposed project will not "maintain" the marine resources of Santa Monica Bay, but instead will actually cause significant additional adverse *cumulative* impacts contrary to the requirements of the California Environmental Quality Act (CEQA) and other applicable laws.[1] Moreover, the proposed project will not "restore and enhance" where feasible the marine resources of Santa Monica Bay, nor will it "minimize the adverse effects of . . . entrainment," as is also expressly required by California law.

The evidence in this case reveals that there are several effective ways to either avoid or mitigate the serious adverse biological impacts that this project will cause. The Applicant has failed to meet its legal burden of proving that these options are, in fact, infeasible. Instead, the Applicant has chosen to rely on seriously outdated, unreliable and/or irrelevant reports in an attempt to prove its claim that the proposed project will have no significant adverse impacts on the marine resources of Santa Monica Bay.

Under these circumstances, the law in California is clear: the Application for Certification of this project, as now proposed by the Applicant, cannot be granted at this time.

B. Santa Monica Bay Is A Valuable But Seriously Impaired Natural Resource

The Applicant is seeking a license from the California Energy Commission (CEC) to withdraw approximately 139 *billion* gallons of seawater *each year* from Santa Monica Bay for "once-through" cooling of its proposed El Segundo Power Redevelopment Project and related facilities. However, as the evidence in this case clearly proves, Santa Monica Bay and its surrounding waters deserve special care and protection

[1] As used herein, the phrase "contrary to the requirements of CEQA and other applicable laws" refers to the Energy Commission's entire CEQA-certified regulatory program, referenced in Public Resources Code Section 25541.5, including the relevant provisions of the Warren-Alquist Act and all CEQA-related Commission regulations. *See, e.g.,* Title 20, California Code of Regulations, Section 1755(c) and (d).

because they constitute an extremely valuable but seriously impaired natural resource in California at this time. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003 at p. 1-2; and RT 2/18/03, Dr. Greg Cailliet, at p. 141).

Among the many undisputed facts in evidence which establish the biologically degraded condition of Santa Monica Bay and its surrounding waters are the following:

1. Santa Monica Bay is currently listed as an "impaired water body" under Section 303(d) of the federal Clean Water Act. (Staff's Direct Written Testimony, January 22, 2003, at p. 2);

2. Santa Monica Bay became and remains one of the first water bodies in the country to be officially listed under the National Estuary Program, established pursuant to the federal Clean Water Act Amendments in 1987 for the purpose of identifying, protecting and restoring important water bodies in this country which are "threatened by development, pollution or overuse" (Staff's Direct Written Testimony, January, 22, 2003, at p. 2, including foot note #2).

3. Many of the critical marine organisms and fish populations inhabiting the waters of the Santa Monica Bay region are in serious, long-term decline across a wide-range of species. (*See* RT 2/18/03, Dr. Greg Cailliet, pp. 133-141). Among the undisputed examples of marine resource declines in this region are the following:

- The biomass of macrozooplankton (i.e., important food chain organisms) in waters off Southern California has declined by *80 percent* since 1951 (FSA at p.4.2-33);

- There are significant and well-documented declines in the abundance of fish larvae (i.e., baby fish) representing a wide-range of fish species including silversides, northern anchovy, white croaker, queenfish, rockfish and blennies. (*See, e.g.,* the FSA at p 4.2-34; and Staff's Slides #8,9,10,11,12,13 and 14).[2]

- Many commercial nearshore rockfish species have declined dramatically over the past several decades. For example, the commercial catch rates for bocaccio are down 98.7%, blue rockfish are down 95.2%, and olive rockfish are down 83%. (FSA at p. 4.2-34). Indeed, the Applicant's own witness, Mr. Chuck Mitchell, testified that "*the trend is down in almost every fisheries (sic) that is managed*" in this region. (RT 2/19/03, Mr. Mitchell, at p. 204). As a result of these declines, the California Fish and Game Commission has now placed severe restrictions or closures on catches of various rockfish in the Santa Monica Bay area. (RT 2/18/03, Bill Paznokas [California Department of Fish and Game] at pp. 269-270; and Rodney McInnis [National Marine

[2] All of the slides which Staff presented during the evidentiary hearing have now been numbered sequentially, and are attached hereto, both in hard copy and electronically.

Fisheries Service] through written comments docketed in this proceeding on October 4, 2002, and incorporated by reference into the National Marine Fisheries Service Response Testimony, dated February 10, 2003, and received into evidence.)

- Many other nearshore fish species that are subject to entrainment and impingement at power plant intakes have also declined sharply over the past several decades. (*See, e.g.,* RT 2/18/03, Dr. Greg Cailliet, at pp. 135-136; and Staff's Slide #6 concerning the clear downward trends in abundance of queenfish, white croaker, yellowfin croaker, black croaker, California corbina, white seabass and spotfin croaker.)

No party in this proceeding is suggesting that power plants alone are responsible for the seriously degraded condition of the marine resources in the Santa Monica Bay region. However, the evidence is clear and undisputed: Santa Monica Bay and its surrounding waters are, in fact, severely impaired biologically, and it will require special care and attention from both regulators and users alike if these unfortunate conditions are to be stabilized and improved in the years to come.

C. The Proposed Project Will Withdraw Large Volumes of Water, At High Speeds, From Santa Monica Bay During Each Of Its Many Years Of Operation

The Applicant is seeking a license from the California Energy Commission (CEC) to withdraw approximately 139 *billion* gallons of seawater *each year* from Santa Monica Bay for "once-through" cooling of its proposed El Segundo Power Redevelopment Project and related facilities. If licensed by the CEC, *this project as now proposed will be authorized to withdraw enough water from Santa Monica Bay each year to submerge the entire City of Los Angeles (an area consisting of more than 426,000 acres of land) under water approximately a foot deep.*[3] (*See* RT 2/18/03, Dr. Noel Davis, at pp.122-123; and Staff's Direct Written Testimony, January 22, 2003, at p. 1).

The project's proposed once-through cooling water system would consist of two existing cooling water "intake" conduits (and related pumps, pipes, ponds, and screens) which currently extend out from the power plant site approximately a half mile (2600 feet) into the shallow, nearshore waters of Santa Monica Bay. The two openings for this cooling water intake system are actually located in seawater that is only about 30 feet deep. These two "intakes" (Intake #1 and Intake #2) are positioned approximately 400 feet apart from each other, and have been described by the Applicant's witness, Mr. Mitchell, as "large concrete structures, rather rectangular in shape, about the size of your garage," and each one is approximately a half mile long. As Mr. Mitchell repeatedly noted during his oral testimony, "They're no small structure[s]." (*See, e.g.,* RT 2/18/03,

[3] As Staff noted in its Direct Written Testimony (at footnote 1 on page 1), it requires 326,000 gallons of water to provide an "acre-foot" of water, i.e., enough water to cover *one* acre, *one* foot deep in water.

Mr. Mitchell, at pp. 54 and 55; the Final Staff Assessment [FSA Docketed September 11, 2002] at pp. 4.2-12 and 13; and Staff Slide #4).

In fact, the actual dimensions of the opening for Intake #1 are 11 feet by 14 feet, and Intake #2 is similar in size. These openings are big enough to easily suck in objects much larger than the size of a human being, as Dr. Noel Davis testified based on her direct observations of these structures during a dive conducted at the actual intake site in January 2003. Fish of all sizes clearly appear to be attracted to the "rip-rap" which houses and protects these huge openings to the proposed cooling water intake system. (*See* RT 2/18/03, Dr. Davis, at pp. 121-122; Staff's Slide #2; and the Video taken by Dr. Davis during her on-site dive at the intake openings in January 2003).

The record is uncontested that the Applicant proposes to withdraw this large *volume* of water from Santa Monica Bay at *speeds* which will flow at the rate of 4.2 feet per second once inside the concrete conduit pipes. As Dr. Davis testified, this rate of speed is *more than 8 times faster than the marine resource protection limit which the federal Environmental Protection Agency (EPA) now requires for the operation of all new power plant intakes* (i.e., 0.5 feet per second) under its recently adopted rules for "new" facilities. (*See* RT 2/18/03, Dr. Davis, at p.123).

After the water is withdrawn from Santa Monica Bay, it is delivered via the concrete intake conduits, pumps and pipes into two separate isolated forebays located immediately adjacent to the power plant, onshore in the City of El Segundo, approximately a half mile from where the water is initially withdrawn from the bay. Thereafter the water is transferred through the condenser tubes of the power plant, which act like a heat exchanger system to remove the excess heat produced when the existing generating units (i.e., Units #1 and 2 which utilize Intake #1, and Units #3 and 4 which utilize Intake #2) are actually producing electricity. The seawater is thereby warmed-up by about 20 degrees Fahrenheit (F.) before being subsequently discharged back into Santa Monica Bay through two separate outfall conduits that are somewhat shorter than the two intake conduits. The warmed-up effluent is discharged into the bay at the shallow depth of approximately 26 feet, where the heated water mixes with the cooler waters of the bay and then "dissipates." (*See, e.g.,* RT 2/18/03, Mr. Mitchell, at pp. 55-57).

In short, as Dr. Davis testified based on her direct observations and knowledge, the once-through cooling water system which the Applicant proposes for this project will rely on two large, fish-attracting concrete intake structures that will withdraw enormous volumes of ocean water, at high rates of speed, from Santa Monica Bay each year. (*See*, RT 2/18/03, Dr. Davis, at p.126). Thereafter, this water will be substantially heated-up by the power plant's operation before being discharged back into shallow waters located near the shoreline of Santa Monica Bay. (*See, e.g.,* RT 2/18/03, Mr. Mitchell, at pp. 55-57).

D. The Proposed Project Will Cause Significant Adverse Impacts To The Marine Resources Which Inhabit Santa Monica Bay and Its Surrounding Waters

1. It Is Undisputed That This Project Will Cause Direct Adverse Biological Impacts

The evidence in this case clearly establishes that the large volume, high-speed, once-through cooling water system proposed by the Applicant for this project *will cause direct adverse impacts to the marine resources inhabiting Santa Monica Bay and its surrounding waters*. (*See, e.g.,* RT 2/18/03, Dr. Mike Foster, at p. 141; and Staff's Direct Written Testimony, January 22, 2003, at p. 1-20).

Among the undisputed facts establishing the direct adverse biological impacts of this proposed project are the following:

- The proposed once-through cooling system will harm marine organisms in several different ways, including entrainment, impingement and temperature increases. (*See, e.g.,* the FSA at pp. 4.2-16, and 4.2-28 through 4.2-31; Applicant's Direct Written Testimony, January 22, 2003, at p. 5; and RT 2/18/03, Mr. Mitchell, at p. 58).

- The proposed once-through cooling system will kill *trillions* of marine plankton (i.e., food chain organisms) each year through entrainment. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at p. 1; and RT 2/18/03, Dr. Foster, at pp. 141-142).

- The proposed once-through cooling system will kill *billions* of fish larvae (i.e., baby fish) and fish eggs each year through entrainment. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at p. 1; and RT 2/18/03, Dr. Mike Foster, at pp. 141).

- The proposed once-through cooling system will kill *thousands* of adult fish each year through impingement, and it has killed *more than 10,000* adult fish on average each year through impingement in the past. (*See, e.g.,* RT 2/18/03, Mr. Mitchell, at p. 68).

- The proposed once-through cooling system will kill all fish and invertebrates living in either the intake or the forebay during heat treatments, and such treatments at the El Segundo site have already killed 78 different species of fish in the past. (*See, e.g.,* the FSA at pp. 4.2-30 and 31; and RT 2/18/02, Mr. Mitchell, at p. 67).

In short, there is no dispute amongst the parties to this proceeding that the once-through cooling system now proposed for this project *will cause* direct adverse impacts to marine resources through entrainment, impingement and/or temperature increases for many years to come.

2. The Project Will Cause "Significant" Cumulative Adverse Marine Resource Impacts

The evidence in this proceeding also establishes that the proposed project will cause *significant* cumulative adverse impacts to the marine resources of Santa Monica Bay and its surrounding waters. While the Applicant has repeatedly asserted that the adverse biological impacts from the proposed project will not be significant, virtually all of the other participants in this case (including the CEC Staff, the National Marine Fisheries Service, the California Department of Fish and Game, the California Coastal Commission, the City of Manhattan Beach, the Santa Monica Baykeepers and Heal The Bay) have rejected the Applicant's claim and effectively refuted the evidence cited to support it.

(a) The Claim Of "No Significant Impacts" Rests On Unreliable Evidence

The Applicant has cited a number of reports in an attempt to support its claim that the proposed project will have no "significant" adverse biological impacts. (*See, e.g.,* the Applicant's Direct Written Testimony, January 22, 2003, at pp. 5-12). However, the CEC Staff, as well as most other participants in this proceeding, have rejected this claim because it is based entirely on scientifically unreliable and/or irrelevant reports, and because no scientifically reliable entrainment studies have *ever* been done at the proposed project site to confirm this assertion.

The written record in this proceeding is replete with thorough and extensive evidence describing the many serious deficiencies in each of the various reports the Applicant has cited to support its claim of "no significant impacts." (*See, e.g.,* the FSA at pp. 4.2-19 through 27; Staff's Written Response Testimony, February 10, 2003, at pp. 7-19; National Marine Fisheries Service (NMFS) Written Response Testimony, February 10, 2003, at pp.1-3, incorporating by reference related concerns contained in docketed NMFS letters dated April 8, June 28 and October 4, 2002; California Coastal Commission Conformity Comments, April 9, 2002; California Department of Fish and Game Comments, June 26, 2002; and Santa Monica Baykeepers Direct Written Comments, January 22, 2003).

This brief will not repeat the many specific deficiencies concerning each of the individual reports relied on by the Applicant, as these deficiencies can be reviewed, in detail, by reading the lengthy written evidence cited above. Instead, this brief will highlight the key oral testimony, and accompanying slides, which Dr. Pete Raimondi presented at the evidentiary hearing on this issue. (*See* RT 2/18/03, Dr. Pete Raimondi, at pp. 162-178).

Initially it should be noted that Dr. Raimondi and his colleagues (Dr. Mike Foster, Dr. Greg Cailliet and Dr. Noel Davis) are among the leading experts in the nation regarding power plant marine resource impact analyses. (*See* the summary of professional credentials for these four individuals presented at RT 2/18/03, pp. 109-111). This fact should be kept in mind when deciding what weight to give to their expert testimony in comparison with that of the Applicant's only biology witness, Mr. Chuck Mitchell (*See Voir Dire* of Mr. Mitchell by Mr. Fleschli at RT 2/18/03, pp. 49-52).

In his oral testimony, Dr. Raimondi explained that modern scientific standards require plankton entrainment impact studies to meet all of the following reliability criteria:

- proper sampling location – the plankton samples must be collected at the proper location because samples collected even short distances from the point of actual impact can greatly distort the analysis;

- timely data collection -- the changing nature of marine environments means that plankton data which is 20 years old is unlikely to be accurate;

- proper collection methods – the plankton must be collected using proper tools (e.g., pumps vs. nets), at proper times (e.g., day vs. night, over many months to allow for seasonal variability), and at proper depths (e.g., bottom, mid and surface water column samples, and shallow vs. deep water samples);

- proper species identification – the ability to identify plankton down to the "species" level has advanced greatly in recent years, allowing for far more complete and accurate impact assessments than was possible in the past;

- proper impact assessment techniques – the recent development of the Empirical Transport Model has greatly improved the accuracy of plankton-to-adult impact assessments over previous models such as the Adult Equivalent Loss or Fecundity Hindcasting models.

(*See* RT 2/18/03, Dr. Raimondi, at pp. 162-170; and Staff's Slide #19).

Dr. Raimondi expressly noted that none of the "entrainment" studies offered by the Applicant (e.g., the Ormond Beach, Scattergood and King Harbor "proxy" studies) complies with these "reliability" criteria, and the "non-entrainment" reports cited by the Applicant (e.g., the Hyperion, SCCWRP, Sportfishing and Lavenberg reports) were never designed to assess entrainment impacts in the first place, and also fail to meet the reliability criteria above. Dr. Raimondi testified that he, and all of the experts on the CEC Biology team, have concluded that the many documentary reports cited by the Applicant are entirely "irrelevant, inadequate and/or unreliable" to prove that no significant impacts will result from the proposed project. Dr. Raimondi then stated:

> "I think that [the Applicant's cited reports are] worse than nothing at all. Because at least with nothing at all you just say, well, we don't know. With these [reports cited by the Applicant] you think that you might know something, and it just might mislead you . . . [and] lead you to the wrong conclusion, which is worse than no study at all."

Finally, Dr. Raimondi noted that this extremely negative assessment of the Applicant's reports was shared by the National Marine Fisheries Service, the California Department

of Fish and Game, and the California Coastal Commission as well. (*See* RT 2/18/03, Dr. Raimondi, at pp. 174-178, and Staff's Slides #20, 21 and 22).

(b) This Project Will, In Fact, Cause "Significant" Cumulative Biological Impacts

It is undisputed that no scientifically reliable entrainment study has ever been done directly at the El Segundo cooling water intake site. (*See* the FSA at p. 4.2-19; Staff Written Response Testimony, February 10, 2003, at p. 7; and RT 2/18/03, Dr. Raimondi, at p. 175). In this regard, it is critically important for the Commission to recognize that *this particular project stands alone in failing to provide the type of reliable scientific data that has been provided for and/or required of every other coastal power plant project recently certified by or currently seeking certification from the CEC.* (*See* the FSA at p. 4.2-39, footnote 28).

Thus, although it is uncontested that the proposed once-through cooling system will certainly cause direct adverse biological impacts through entrainment, impingement and temperature increases (as discussed earlier in this brief), Staff has not been able to determine whether these direct biological impacts, *standing alone*, "will be significant." (RT 2/18/03, Dr. Mike Foster, at p. 142). However, there is compelling evidence in the record which supports the finding and conclusion that these direct biological impacts, *standing alone*, "may be significant," and the cumulative biological impacts of this project, in conjunction with other factors, "will be significant." (*See, e.g.,* the FSA at pp. 4.2-28, 29 and 33-36).

Among the undisputed facts which support these findings concerning the "significance" of the direct and cumulative biological impacts of this proposed project are the following:

- *Santa Monica Bay and its surrounding waters are biologically impaired, and many valuable marine resources are experiencing severe and extended declines.*

  (This point was discussed and documented earlier in this Opening Brief at pp. 2-4, above.)

- *This project will kill trillions of zooplankton, billions or ichthyoplankton and thousands of adult fish annually, through entrainment, impingement and temperature increases.*

  (This point was discussed and documented earlier in this Opening Brief, at p. 6, above.)

- *The volume of water to be withdrawn by the proposed project alone will constitute a substantial percentage of the shallow source water in Santa Monica Bay.*

  There is no dispute that the proposed project alone will withdraw up to 139 *billion* gallons of water each year from Santa Monica Bay. This volume of withdrawn water constitutes *at least* 3.4% of the shallow source water (i.e., the upper 15 meters in

depth) in Santa Monica Bay, and this is clearly a "very conservative" figure. (*See* Staff's Written Response Testimony, February 10, 2003, at pp. 19-20).

- *Cumulatively, the El Segundo, Scattergood and Redondo power plants will withdraw more than 13% of the shallow source water in Santa Monica Bay each year.*

  There is no dispute that the cumulative volume of water to be withdrawn each year by the proposed project at El Segundo (3.4%), in conjunction with water volumes currently withdrawn annually by the Scattergood power plant (4.4%) and the Redondo power plant (5.3%), will total more than 13% of the shallow source water in Santa Monica Bay, and this percentage again is a "very conservative" figure. (*See, e.g.,* RT 2/18/03, Dr. Mike Foster, at pp. 143-145; and Staff's Slide #15).

- *Cumulatively, the El Segundo, Scattergood and Redondo power plants will kill more than 13% of the marine larvae in Santa Monica Bay each year.*

  Dr. Mike Foster testified without contradiction that since the proposed El Segundo power project, together with the nearby Scattergood and Redondo Beach power plants, will cumulatively withdraw more than 13% of the shallow source water from Santa Monica Bay each year, it is a "reasonable assumption" that 13% or more of the marine larvae in Santa Monica Bay will be killed as a result. Dr. Foster further testified that *"killing 13 percent or more of the life in the Bay that is already degraded is clearly a significant adverse cumulative impact."* (RT 2/18/03, Dr. Foster, at pp. 146-147).

  Commissioner Keese expressly asked Dr. Foster whether there is a 1 to 1 ratio between the percentage of source water withdrawn and the percentage of marine larvae killed as the result of such entrainment, and Dr. Foster testified "That's a reasonable assumption." (RT 2/18/03, Commissioner Keese and Dr. Foster, at pp.146-147). Thereafter, Dr. Raimondi testified that in *all* of the recent power plant cases which he's been associated with (e.g., Diablo Canyon, Moss Landing and Morro Bay), the adverse impact to fish and fish plankton from once-through cooling "has always been . . . greater than and sometimes many times greater than the volumetric approximations." (RT 2/18/03, Dr. Raimondi, at pp. 171-172).

- *Once-through cooling has repeatedly been found to cause significant adverse biological impacts at other power plant sites in California and elsewhere.*

  The undisputed evidence in this proceeding confirms that recent, scientifically sound studies conducted at other power plants using once-through cooling in California, and elsewhere, have repeatedly shown that entrainment impacts caused by these cooling systems are, in fact, significant. These recently studied facilities include Moss Landing, Morro Bay, Diablo Canyon and San Onofre. (*See, e.g.,* the FSA at p. 4.2-27; and Staff's Written Response Testimony, February 10, 2003, at p. 20). Indeed, the use of modern scientific protocols has revealed significant biological impacts at some of these projects even when earlier on-site studies, using less

sophisticated science, identified no significant impacts from the projects in question. (*See, e.g.,* RT 2/18/03, Dr. Raimondi, at pp.170-171).

- *The Energy Commission has formally advised the Legislature that continued use of once-through cooling "will perpetuate significant impacts on aquatic ecosystems."*

  In its most recent "Environmental Performance Report" to the Legislature, the California Energy Commission expressly advised that: "Repowering or expanding power plants at existing coastal and bay side sites will perpetuate *significant impacts* on the aquatic ecosystems through the continued use of once-through cooling water systems." (*See* the FSA at pp. 4.2-28 and 35).

In short, the undisputed facts above, along with many other facts in the evidentiary record, clearly support the finding and conclusion that this proposed project "will have" significant *cumulative* adverse biological impacts, and "may have" significant *direct* adverse impacts as well.

E. The Proposed Project Will Increase Adverse Marine Resource Impacts Above Existing Conditions, Contrary To The Requirements Of CEQA

In a power plant siting case such as this one, the CEC serves as the "lead agency" responsible for carrying out the policies and legal requirements of the California Environmental Quality Act (CEQA). *See* Public Resources Code Section 25519(c). Under the provisions of CEQA, the impacts of a proposed project are to be evaluated in comparison with certain "baseline" conditions in existence prior to the project's approval; the Staff has referred to these preexisting conditions as the "*status quo ante."* The CEQA Guidelines expressly state that the "physical environmental conditions . . . as they exist at the time [the AFC is filed] or . . . the environmental analysis is commenced . . . will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." Title 14, California Code of Regulations (Cal. Code Regs.), Section 15125(a).

In this siting case proceeding, the AFC was filed with the Commission in December of 2000, and Staff commenced its preliminary environmental analysis shortly thereafter. At that time the Applicant was seeking a license to withdraw up to 207 million gallons per day (mgd) for once-through cooling of the proposed project, relying solely on existing Intake #1 which had been operated in a highly variable manner over a number of years. Under these circumstances it was necessary to identify a reasonable *range* of operating dates prior to the filing of the AFC which would accurately reflect the *average* operating conditions for Intake #1 at the time this AFC was filed. As the Commission has done in other power plant cases involving the use of once-through cooling systems (e.g., Moss Landing), Staff determined the average "historic" cooling system flow rates for the five-year period leading up to and including the month of December 2000 (when the AFC was filed), and that historic average turned out to be 69.2 mgd for Intake #1. Thus, at the requested level of 207 mgd, the Applicant was initially seeking a *three-fold increase* in total water withdrawals from Santa Monica Bay above the average physical

conditions in existence for Intake #1 at the time this AFC was filed. (*See* the FSA at pp. 4.2-14 through 16).

Confronted with this inescapable fact, in November 2002 the Applicant announced for the first time that it was fundamentally changing its cooling water request, proposing instead a "facility-wide cap" covering the total annual flow volumes for *both* Intake #1 *and* Intake #2 at the El Segundo site. Under this proposal, the Applicant would limit the total volume of water withdrawn from Santa Monica Bay by Intakes #1 and 2 to 139 *billion* gallons annually, thereby supposedly offsetting any increased volumes withdrawn at Intake #1 with comparable reductions in the volumes to be withdrawn at Intake #2. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at pp. 3-5).

However, as the evidence in this case proves, the Applicant's proposed 139 *billion* gallon annual cap will, in fact, *increase* the adverse biological impacts of the proposed project over existing conditions for several reasons. First, while the "baseline" under CEQA is "normally" the physical conditions existing at the time the AFC is filed, nothing in the CEQA statutes, guidelines or case law requires decision makers to ignore fundamental changes in the facts and/or the law that occur while the proposed project is still under review. To do so would be inconsistent with both the "full disclosure" and the "rational decision making" policies which CEQA seeks to promote.

In this particular case, on January 1, 2003, prior to the commencement of any evidentiary hearings in this matter, a fundamental change did occur in the facts and law concerning this project. Specifically, as of that date the Applicant no longer possessed a valid South Coast Air Quality Management District (SCAQMD) permit to operate its generating Units #1 and 2, and all generation by those units has now ceased. Accordingly, *no water* is being withdrawn through Intake #1 for the purpose of *cooling* these legally shut down units, and therefore the appropriate *cooling water* baseline for Intake #1 is now "zero." [4]

Given these factual and legal circumstances, the proper "facility wide" baseline for the entire El Segundo power plant is 101.533 *billion* gallons per year, which is comprised of:

[4] At the evidentiary hearings, the Applicant's witness, Mr. Hemig, initially testified that after January 1, 2003, Intake #1 has continued to operate "every day at about 50 million gallons per day" because "it's essential to the operation of the existing station units 3 and 4 for various wastewater discharges that have to be circulated." (RT 2/19/03, Mr. Hemig, at p. 215.) However, Mr. Hemig did not claim that any water was being withdrawn to cool Units #1 and 2, which are legally shut down. Moreover, on cross-examination Mr. Hemig conceded that there have been times in the past when Intake #1 has been completely shut down for entire days or even months while Units #3 and 4 were still operating (*see, e.g.,* the FSA at p. 4.2-15, Table 4, concerning the months of March and April 1998), and "there might be days when it's shut down for some reason that I may not be privy to" now. (RT 2/19/03, Mr. Hemig, at pp. 215-217). In short, there is no factual basis for concluding that Intake #1 is now being or will need to be operated at 50 mgd in the future for any purpose, and the evidence is undisputed that no *cooling* water from Intake #1 is or will be needed for Units #1 and 2, which are now legally closed. Therefore the appropriate *cooling water* baseline for Intake #1 is now "zero."

(1) the "zero" baseline for cooling water no longer being withdrawn at Intake #1; and (2) the five-year average volume of cooling water being withdrawn at Intake #2 when the AFC was filed (i.e., 101.533 *billion* gallons per year). As such, the Applicant's proposed cap of 139 *billion* gallons per year will, in fact, *increase* the water currently being withdrawn from Santa Monica Bay by 37.467 *billion* gallons per year, or approximately 36% above the physical baseline conditions that now exist. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at pp. 5-6; RT 2/18/03, Dr. Davis, at pp. 150-151; and Staff's Slide #17, in which a typo has been corrected so that the "total" for the month of February now correctly reads "**7**231" instead of the incorrect "**4**231" presented at the time of the hearing).

Second, even if the Commission decides to use the *combined* "historic" baseline for Intakes #1 and 2, instead of a "zero" baseline for Intake #1, the Applicant's proposed cap of 139 *billion* gallons per year would still *increase* the water withdrawn from Santa Monica Bay by 12.216 *billion* gallons (i.e., about 10%) above the 126.784 billion gallons that were being withdrawn by Intakes #1 and 2, together, at the time this AFC was filed. (*See* Staff's Direct Written Testimony, January 22, 2003, at pp.6-7; and Staff's Slide #16).[5]

Third, neither the "annual" cap nor the limited "monthly" caps proposed by the Applicant will prevent the potential for *increased* harm to marine resources, because neither cap effectively deals with certain *"seasonality"* concerns that must be addressed in order to preserve the *status quo ante*. Specifically, by its very nature the annual cap would allow the Applicant to use its yearly allocation of water *whenever* it sees fit to do so (subject to the daily limits in the NPDES permit of course). This, in turn, could easily result in *increased* cooling water withdrawals (and related adverse impacts) during certain "peak" spawning times of the year, and nothing in the Applicant's proposed annual cap would prevent such increased harm from happening. (*See* Staff's Direct Written Testimony, January 22, 2003, at p. 7; RT 2/18/03, Dr. Cailliet, at pp.153-154).

In apparent recognition of this fundamental "seasonality" flaw in its proposed "annual" cap, the Applicant also put forth a limited "monthly" cap that would further constrain the facility-wide withdrawal volumes during the specific months of February, March and April each year. While a monthly cap imposed during these particular three months might address the "seasonality" concerns regarding "spring spawners" (assuming that the proper baseline of "zero" was used for Intake #1, and the proper monthly averages

[5] The Applicant has tried to overcome this factual problem by "shifting" the historic baseline from the five year period leading up to the AFC (i.e., January 1996 through December 2000) to a five year period extending from January 1998 through December 2002, claiming this better "represents" the deregulated environment which now exists in California, rather than the regulated environment which preceded it. However, as the record makes clear, the years 2000, 2001 and 2002 (which the Applicant claims are "representative" years) were, in fact, "atypical" operational years, producing an unprecedented "energy crisis" in California, marked by a wide-range of uncommon experiences including, among other anomalies, "rolling blackouts." (*Compare* Applicant's Written Response Testimony, February 10, 2003, at p. 16 *with* RT 2/18/03, Dr. Davis, at pp. 151-152).

of 1996 through 2000 were used for Intake #2), these limited monthly caps completely ignore the undisputed fact that many fish species inhabiting Santa Monica Bay spawn in the summer, and other species actually spawn year-round. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at pp. 8-9; Staff's Written Response Testimony, February 10, 2003, at pp. 27-28; RT 2/18/03, Dr. Cailliet, at pp. 154-160; and Staff's Slides #18 and 36). Since the Applicant's "monthly" caps only apply in February, March and April, withdrawal levels could be *increased* above existing baseline conditions at other times of the year, thereby *increasing* the harm to those species which spawn in the summer or year-round.

The only way to actually maintain the *status quo ante* under these circumstances is to faithfully adhere to all of the baseline conditions that now exist by imposing a monthly cap which fully "mirrors" these pre-project conditions *for every month of the year.* (*See, e.g.,* Staff's Written Response Testimony, February 10, 2003, at p. 27; and RT 2/18/03, Dr. Cailliet, at pp. 179-180). Since the Applicant's annual and limited monthly caps do not fully mirror the existing baseline conditions, they will potentially *increase* the adverse impacts of the proposed project and will not maintain the *status quo ante* in this case.

Before moving on to the next topic area in this brief, one final point needs to be addressed concerning whether this project will *increase* the adverse impacts to marine resources in Santa Monica Bay above the current baseline. To get around the factual "baseline" dilemmas presented above, the Applicant has argued that the proper baseline conditions for this case should be set at its current National Pollution Discharge Elimination System (NPDES) permit levels, which now limit withdrawals at Intake #1 to 207 mgd, and withdrawals at Intake #2 to 398.6 mgd (i.e., approximately 221 *billion* gallons per year for the two intakes combined). Under this argument, the Applicant's proposed "facility-wide" limit of 139 *billion* gallons per year would constitute a decrease in impacts, not an increase, and therefore the requirements of CEQA would appear to be met. (*See, e.g.,* RT 2/18/03, Mr. Hemig, at pp. 79-80). However, this argument is not correct for several reasons, including the following.

Initially, it is important to emphasize that under the CEQA Guidelines the "baseline" is normally determined in comparison to the "physical" conditions that exist at the time of the filing of the AFC. *See* Title 14, Cal. Code Regs., Section 15125(a). Thus, while the Applicant's NPDES permits may *allow* larger withdrawals *in theory*, these higher levels are not now and never have been reflective of the actual "physical" conditions occurring at the time this AFC was filed.

Furthermore, the Applicant has no permanent vested legal right to withdraw these larger volumes of water from Santa Monica Bay for use with this proposed project. To the contrary, the existing NPDES permits for both Intakes #1 and 2 are time-limited on their face, and will actually expire in mid 2005, well before the proposed project will come on line. (*See, e.g.,* the FSA at p. 4.2-38).

In addition, the Applicant no longer has a valid SCAQMD permit to operate the existing Units #1 and 2, and it has no permit of any kind from the CEC to operate the proposed

project. Therefore, the Applicant currently has no licensed "beneficial uses" to which it can put the full 207 mgd from Intake #1, and it has no legal right to retain these volumes for wholly speculative future uses under California law.

Finally, the Los Angeles Regional Water Quality Control Board (LARWQCB) did not come forward at the evidentiary hearings to support the Applicant's position on this matter. To the contrary, the undisputed evidence in this proceeding reveals the following facts:

- In a letter to the CEC, both docketed in this proceeding and cited in the FSA, the LARWQCB expressly stated that it is "fully aware" of the many concerns raised about the proposed project's entrainment impacts by the CEC Staff, the Department of Fish and Game, the National Marine Fisheries Service and the California Coastal Commission, and *it "has no objection if the CEC elects to make additional factual and legal determinations on [the entrainment impacts] issue pursuant to [the Energy Commission's] responsibilities under the California Environmental Quality Act (CEQA) and the Warren Alquist Act."* (*See* the FSA at P. 4.2-38).

- The LARWQCB has also acknowledged that it did not possess any entrainment data collected directly at the El Segundo intake site when it renewed the existing NPDES permits in 2000, and it has, in fact, never collected, possessed or analyzed any such direct entrainment data for this facility. (*See* the FSA at p. 4.2-19, footnote #6).

Under these circumstances, it is clear that the existing NPDES permit limits do not constitute the proper "baseline" conditions for CEQA purposes in this case. To the contrary, the proper baseline conditions should reflect the actual "physical" conditions that currently exist, namely a "zero" cooling water baseline for Intake #1, and a proper five-year cooling water average (i.e., prior to the filing of the AFC) for Intake #2, as shown in Staff's Slide #17.

For all of the reasons stated herein, this project will clearly *increase* the significant adverse marine resource impacts in Santa Monica Bay above existing baseline conditions, without fully and feasibly avoiding or mitigating those impacts (as will be discussed further in the following section of this brief), contrary to the requirements of CEQA.

F. The Proposed Project Will Not Maintain, Enhance and Restore Where Feasible The Marine Resources Of Santa Monica Bay, Contrary To California Law

Even if this project did meet the requirements of CEQA, which it does not, it cannot be legally licensed, as now proposed, because it will not "maintain, enhance, and where feasible restore" the marine resources of Santa Monica Bay, nor will it maintain or restore where feasible the biological productivity and quality of coastal waters by "minimizing the adverse effects of . . . entrainment," as is expressly required by California Coastal Act. *See* Public Resources Code Sections 30230 and 30231.

1. This Project Does Not Conform To The Requirements of the California Coastal Act

It is undisputed that this proposed project will be located within the "coastal zone" of California, and is subject to the requirements of the California Coastal Act. Accordingly, the California Coastal Commission has reviewed this particular project on several different occasions at its public business meetings, and has provided formal written comments and recommendations to the CEC, concluding that the proposed project does *not* conform to and is *not* consistent with the provisions of the California Coastal Act. (*See, e.g.,* RT 2/18/03, Mr. Tom Luster, at pp. 185-195).

Specifically, at its duly-noticed business meeting on April 9, 2002, the Coastal Commission publicly determined by a unanimous vote, and thereafter informed the CEC in writing, that (1) the proposed El Segundo repower project will not conform to the California Coastal Act policies in Section 30230 requiring that marine resources be maintained, enhanced, and where feasible, restored; (2) the proposed El Segundo repower project will not conform to the California Coastal Act policies in Section 30231 requiring that the adverse biological effects caused by entrainment be minimized; and (3) in this particular case the Coastal Commission cannot identify specific mitigation measures needed to restore and enhance marine resources where feasible until a scientifically sound site-specific entrainment study is completed for the proposed project. (*See, e.g.,* California Coastal Commission Letter to CEC Commissioner Robert Pernell, dated April 9, 2002; and RT 2/18/03, Mr. Luster, at pp. 188-190).

Thereafter, the CEC Staff sought to determine whether there are *any* feasible engineering alternatives that could avoid or substantially reduce the adverse marine resource impacts of the proposed cooling system, and thus bring this project into compliance with the legal requirements of the California Coastal Act and CEQA. In the summer of 2002, the Staff specifically requested Mr. Jim Schoonmaker (a consulting engineer with more than 30 years of licensed professional experience in operating, managing and designing major power plants for the Southern California Edison and Mission Energy companies) to lead an expert team in evaluating the feasibility of various alternative cooling options for the proposed project. The results of this cooling system "alternatives" evaluation are reported in Appendix A to the "Biological Resources" section of the FSA, and can be summarized as follows:

- The "dry" cooling, "wet" cooling, and "hybrid" cooling options are not feasible alternatives for this particular project because of factors such as adverse visual impacts, adverse noise impacts and/or space limitations at the site in question.

- The "wastewater" cooling alternative (which would make use of treated effluent now being discharged by the Hyperion Treatment Plant, located less than a mile from the proposed project, and then return the heated effluent back to the Hyperion facility for discharge through the existing Five Mile Outfall tunnel) has *"no fatal flaws"* and *"appears fully feasible"* as a means of entirely *avoiding* the adverse marine resource impacts of the proposed project.

(*See* the FSA at Section 4.2, Appendix A, pp.1-40; RT 2/18/03, Mr. Schoonmaker, at pp, 196-202; and Staff's Slides # 24, 25 and 26).

Following the release of the FSA, and the related Cooling Alternatives Appendix, the Coastal Commission publicly determined by a unanimous vote at its duly-noticed business meeting on November 6, 2002, and then informed the CEC in writing, that (1) the Coastal Commission has reviewed the cooling water alternative of using treated wastewater from the Hyperion Treatment Plant; (2) this wastewater cooling alternative appears to be feasible and in conformity with the marine resource policies in Coastal Act Sections 30230 and 30231; and (3) if the CEC does not require this wastewater cooling alternative for the proposed project, then a site-specific entrainment study will need to be completed *before* any finding of conformity with the California Coastal Act can be made. (*See* California Coastal Commission Letter to CEC Commissioner Robert Pernell, dated November 6, 2002; and RT 2/18/03, Mr. Luster, at pp. 191-192).

Finally, in Written Direct and Response Testimony formally filed in this proceeding on January 22 and February 10, 2003, the Executive Director of the Coastal Commission informed the CEC that the various revisions which the Applicant belatedly made to its proposal after November 6, 2002 (e.g., the annual and monthly caps, etc.) did not address the marine resource concerns which the Coastal Commission had previously raised in its conformity letters to the CEC, and the proposal, as revised, still does not conform to the legal requirements of Coastal Act Sections 30230 and 30231. (*See* California Coastal Commission Letters to CEC Commissioner Robert Pernell, dated January 22 and February 10, 2003).

In short, the California Coastal Commission has reviewed this proposed project and determined that it does not conform to and is not consistent with the California Coastal Act because it will not "maintain, enhance, and where feasible restore" the marine resources of Santa Monica Bay, nor will it maintain or restore where feasible the biological productivity and quality of coastal waters by "minimizing the adverse effects of . . . entrainment," as is expressly required by Public Resources Code Sections 30230 and 30231. The Coastal Commission has further recommended that CEC either (1) require the use of the Hyperion wastewater cooling alternative as a condition of certification; or (2) not grant certification until such time as (a) a proper site-specific entrainment study has been tendered to the CEC, and (b) appropriate mitigation measures, in conformity with the California Coastal Act, have been imposed.

2. The Applicant Has Not Proven That The Wastewater Cooling Alternative Is Infeasible

When a proposed project is located within the "coastal zone," as is the case in this proceeding, the CEC is legally *required* to include in its written decision the conformity recommendations of the California Coastal Commission *unless* it specifically finds that these recommendations would result in greater adverse impacts to the environment or "would not be feasible." *See* Public Resources Code Section 25523(b). Thus, the Applicant has the burden of proving that the Coastal Commission's recommendations

are either infeasible or will increase harm to the environment. In this case, the Applicant has proven neither with regard to the Hyperion wastewater cooling alternative.

Instead, the Applicant has argued that secondary wastewater from Hyperion cannot be successfully used as a cooling water alternative for this project because (1) it would require impermissible or impractical chemical treatments to avoid biofouling; and (2) it would cause impermissible thermal discharges and related public health problems to occur. Unfortunately, as explained below, the Applicant has tried to prove these arguments with unsupported claims, incomplete facts, speculation, and/or complete misrepresentations concerning the applicable law. Based on this wholly inadequate evidentiary record, the Applicant now wants the Commission to conclude that the Hyperion wastewater cooling alternative "would not be feasible." However, such a finding cannot be supported by the evidentiary record in this case for the following reasons.

(a) Secondary Treated Effluent Can Be Feasibly Used While Avoiding Biofouling

There is no question that the secondary treated effluent from Hyperion may require some further treatment to avoid biofouling problems at El Segundo. The Applicant specifically claims that "shock chlorine" treatments will be needed and could present practical or legal problems rendering the use of Hyperion's secondary effluent as a cooling water alternative at El Segundo infeasible. (*See, e.g.,* Applicant's Direct Written Testimony, January 22, 2003, at pp. 43-44). However, the evidence in this case proves that chlorine treatment, if needed, is both practical and permissible as the following undisputed facts confirm.

- The Hyperion Treatment Plant has successfully used its own secondary treated wastewater to cool its four on-site gas turbine generators for more than 10 years, without any reported biofouling or chlorine-related problems. (*See* RT 2/19/03, Mr. Charles Turhollow (LA Bureau of Sanitation), at pp. 253-254).

- Other power plants throughout California have routinely used chlorine to treat their cooling wastewater without any serious practical or legal problems, including SMUD's Carson Ice Gen Plant, in Sacramento, and the City of Burbank's Generating Plant in Southern California, which has successfully been using chlorine treatment with cooling wastewater for about 30 years. (*See* Staff's Written Rebuttal Testimony at p. 39; and RT 2/18/03, Mr. Schoonmaker, at pp. 212-213). The CEC recently approved a license for the Magnolia Power Plant, in the City of Burbank, which will also rely entirely on treated sewage effluent for all of its power plant cooling needs.

- Chlorine is only one "standard way" to effectively treat biofouling, but there are "several other viable options as well." (RT 2/18/03, Mr. Schoonmaker, at pp. 210-211).

- The primary concern with chlorine is not with its initial use, *per se,* but with sufficient deactivation processes afterward to turn any harmful "free chlorine" into harmless

sodium chloride or other chloride salts before being discharged back into the ocean. (RT 2/18/03, Mr. Schoonmaker, pp. 211-213).

- "Free chlorine" will not cause a practical or legal problem in this case because the discharge "transit time" from El Segundo back to Hyperion (20 minutes), plus the additional discharge transit time through the Five Mile Tunnel (one hour), means that any free chlorine will be "totally consumed, so that no free chlorine would exist when that wastewater [is] finally discharged into the ocean." (*See* Staff's Written Response Testimony, February 10, 2003, at pp. 39-40; and RT 2/18/03, Mr. Schoonmaker, at pp. 213-214).

There are many other reasons to conclude that the treatment of Hyperion's secondary effluent to avoid biofouling at El Segundo will not cause either practical or legal problems in this case. (*See* Staff's Written Response Testimony, February 10, 2003, at pp. 38-40). However, *what needs to be emphasized here is that the Applicant has not refuted any of the undisputed facts above, and has not presented any evidence whatsoever to prove that biofouling and its related treatment will, in fact, present an insurmountable problem in this case.* In short, on this issue the Applicant has completely failed to meet its burden of proving that the Hyperion wastewater cooling alternative is not feasible.

(b) Misleading Thermal Claims Don't Prove That Wastewater Cooling Is Infeasible

The Applicant has asserted that the law in California limits all new thermal discharges to 20 degrees (F.), or less, above receiving water temperatures. Based on this assertion, the Applicant has presented testimony claiming it would be infeasible or impossible to cool the wastewater obtained from Hyperion enough to comply with the law. (*See, e.g.,* RT 2/18/03, Mr. Robert Collacott, Mr. Mark Kodis and Mr. Ron Cabe, at pp. 31-47). The problem with the Applicant's position is that it is predicated on an incomplete and misleading description of what the applicable thermal laws actually require in this case.

Specifically, the Applicant's "strawman" argument ignores a large number of undisputed facts in this proceeding, including the following:

- The wastewater cooling alternative proposed by the Staff would be discharged well beyond the state's three mile territorial limit, dispersing into 200 foot deep *federal* waters located approximately five miles offshore. (*See, e.g.,* RT 2/18/03, Mr. Richard Sapudar, at pp. 216-217 and 219-220).

- Federal law, which clearly applies to all discharges beyond the State's three mile territorial limit (Clean Water Act Section 316(A)), has no "prescriptive" 20 degree (F.) standard whatsoever. To the contrary, federal law only contains a "performance" standard that requires the thermal discharge limit to "*assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water.*" (*See* RT 2/18/03, Mr. Sapudar, at p. 221; and Staff's Slide #28).

- State thermal law, if it applies at all in this case, expressly allows a "performance" based *variance* to be granted from the "prescriptive" 20 degree (F.) standard whenever the variance provides for "*adequate protection to the beneficial uses* (including the protection and propagation of a balanced indigenous community of fish, shellfish, and wildlife in and on the body of water into which the discharge is made)." (*See, e.g.,* Staff's Written Response Testimony, February 10, 2003, at pp. 36-38; RT 2/18/03, Mr. Sapudar, at pp. 225-226; and Staff's Slide #28).

- Many power plants throughout California have routinely been granted "performance" based variances from the State's "prescriptive" 20 degree thermal standard. (*See* Staff's Written Response Testimony, February 22, 2003, at p. 37)

- The State's basic thermal discharge limit for the existing El Segundo power plant is 105 degrees (F.), as reflected in the NPDES permit granted by the LARWQCB in May of 2000. (*See* RT 2/18/03, Mr. Richard Sapudar, at p. 216). Moreover, the El Segundo NPDES permit also allows thermal discharges from the power plant to reach 125 degrees (F.) for up to two hours at a time during "heat treatments," and it allows thermal discharges from the plant to rise even further, to 135 degrees (F.) for up to one-half hour at a time, during "gate adjustments." (*See* the FSA at p. 4.2-30). All of these elevated temperature limits were recently granted by the LARWQCB under State law for the shallow, nearshore thermal discharges now occurring at El Segundo. All of these elevated temperature limits are far above the 20 degree (F.) "prescriptive" standard the Applicant claims the wastewater cooling alternative would be required to meet, yet these limits have been determined by the LARWQCB not to impair the beneficial uses of Santa Monica Bay.

- Use of the Hyperion wastewater cooling alternative need not ever produce thermal discharges above 105 degrees (F.) from the proposed project, even under emergency conditions. (*See, e.g.,* RT 2/18/03, Mr. Schoonmaker, at pp. 231-237).

- There is no evidence that thermal discharges from the Hyperion wastewater cooling alternative will actually violate any federal or state thermal "performance" standards (i.e., no impairment of beneficial uses). To the contrary, the only evidence in the record on this matter indicates that the Hyperion wastewater cooling alternative would not violate either the federal or the state thermal "performance" standards. (*See, e.g.,* Staff's Written Response Testimony, February 10, 2003, at pp. 35-38).

There are many other reasons in evidence to conclude that the Hyperion wastewater cooling alternative will not encounter any insurmountable practical or legal thermal-related problems. (*See* Staff's Written Response Testimony, February 10, 2003, at pp. 35-38). However, *what needs to be emphasized again is that the Applicant has not presented any evidence to refute the undisputed facts above, and has presented no evidence at all to prove that the Hyperion wastewater cooling alternative will, in fact, violate any applicable federal or state thermal "performance" standards.* In short, on this

issue the Applicant has failed to carry its burden of proving that the Hyperion wastewater cooling alternative is not feasible.

3. The Applicant Has Not Proven That The "Fully Mitigated Option" Is Infeasible

In an effort to consider all feasible ways by which a license could be lawfully granted in this case, Staff has also identified one other option for the Commission's consideration. It is referred to in the evidence as the "Fully Mitigated Option," and it consists of three mandatory elements (sometimes called the "three-legged stool") with which the Applicant must comply, as follows:

- (a) A monthly flow cap, fully mirroring the proper existing baseline contained in Staff's Slides #17 and 32, must be required *for every month of the year*. This will ensure that the "status quo ante" is preserved, and the legal requirements of CEQA are met; and

- (b) A reliable, site-specific entrainment study must be funded, completed and submitted to the CEC before the start of project operations. This will ensure that all data needed in determining how to properly "maintain, enhance and restore" marine resources, will be obtained and publicly disclosed in a timely manner; and

- (c) All feasibly-affordable mitigation funds must be promptly deposited into a CEC-administered "enhancement and restoration trust fund" to ensure that the legal requirements of the California Coastal Act will be fully met.

(*See, e.g.,* RT 2/18/03, Mr. Rick York, at pp. 238-243; and Staffs' Slide # 31, 32 and 33).

The evidence in the record shows that each of these mandatory mitigation elements is feasible, and the Applicant has again failed to provide any evidence to prove that the "fully mitigated option" is not feasible. The undisputed facts in this case include the following:

- A proper "zero-baseline" facility-wide cap for every month of the year would provide the Applicant with far more than the 150 million gallons daily (mgd) needed to run the new project at full combined-cycle capacity every day of the year, while also providing a large daily "surplus" of cooling water to use, as the Applicant saw fit, in running its much less efficient Units #3 and #4 as well. (*See, e.g.,* RT 2/18/03, Mr. Schoonmaker, at p. 230; and Staff's Slide #32, which allows daily withdrawal volumes ranging from 246 mgd in January to 347 mgd in September). There is no evidence in the record proving that proper monthly caps for every month of the year would render the proposed project "infeasible."

- A reliable, site-specific entrainment study could be completed within 15 months from its inception, long before the proposed plant would be ready to commence operation, and such a study would not require the plant to be operating for data to be properly

collected. (*See, e.g.,* RT 2/18/03, Mr. York, at pp. 240 and 261). There is no evidence in the record proving that it would be "infeasible" in any way for the Applicant to meet this requirement for a reliable, site-specific entrainment study.

- While the extent and nature of any "enhancement and restoration" mitigation efforts cannot be determined until a site-specific entrainment study is completed in this case, the California Coastal Act does limit any funding requirement for such enhancement and restoration effort to that which is "feasible." *See* Public Resources Code Sections 30230 and 30231. The undisputed facts in this case prove that "feasible" expenditures for cooling-water costs in other recent California power plant cases have ranged from $35 million to $80 million dollars. (*See, e.g.,* RT 2/18/03, Mr. York, at pp. 241-243; and RT 2/19/03, Dr. Richard Ambrose, at p. 56). The Applicant has presented no evidence proving that it is not feasible for it to place at least these amounts into an enhancement and restoration mitigation trust fund in this case.

In short, the undisputed evidence in this case proves that the "fully mitigated option" could feasibly satisfy the legal requirements of CEQA and the California Coastal Act, and the Applicant has totally failed to carry its burden of proving that the "fully mitigated option" is not feasible.

G. Findings and Conclusions Regarding Biological Resource Issues In This Case

Staff cannot recommend approval of the El Segundo Power Redevelopment Project at this time given the current factual and legal circumstances of this case, which are as follows:

1. Factual Findings

- Santa Monica Bay and its surrounding waters are a seriously impaired natural resource in California;

- The large volume once-through cooling system proposed for this project will cause significant adverse cumulative impacts, and may cause significant direct impacts as well, to the marine resources of Santa Monica Bay;

- The proposed project will not maintain, restore and enhance the marine resources of Santa Monica Bay;

- The "Hyperion wastewater cooling alternative" appears to be a feasible way to fully avoid the adverse impacts of the proposed project, and the Applicant has not proven that this alternative is infeasible;

- The "fully mitigated option" appears to be a feasible way to maintain, restore and enhance the marine resources of Santa Monica Bay, and the Applicant has not proven that this mitigation option is infeasible.

2. Legal Conclusions

- The proposed project does not comply with the legal requirements of CEQA; and

- The proposed project is not consistent with and does not conform to the legal requirements of the California Coastal Act and the Warren-Alquist Act; and

- There is no legal basis for overriding the requirements of either CEQA or the California Coastal Commission in this case.

3. Recommendations Concerning "Biological Resources"

Given the facts and the law in this case, Staff concludes that before the Commission can certify this project, the Applicant must be required to either: (a) file an amended AFC proposing to implement the Hyperion wastewater cooling alternative; or (b) file supplemental information containing (i) a proper "monthly" cap for *every month of the year*; and (ii) a reliable site-specific entrainment study; and (iii) all feasible avoidance and/or mitigation measures needed to maintain, restore and enhance the marine resources of Santa Monica Bay, consistent with the study's findings.

II. STAFF'S POSITION CONCERNING OTHER ISSUES RAISED BY INTERVENORS IN THIS CASE

Some of the Intervenors in this case have chosen to litigate certain issues not disputed between the Applicant and the Staff in the areas of "Air Quality," "Public Health" and "Socioeconomics." Staff has addressed each of these issues at length in its written filings and oral testimony in this proceeding. Accordingly, this brief will quickly summarize Staff's position on each of these topics.

A. This Project Will Comply With All Laws and CEQA Regarding Air Quality Impacts

When the FSA was initially docketed in this case in September 2002, certain PM10 and SO2 air emissions from the proposed project had not been fully mitigated or offset, and Staff raised concerns about these "excess" air emissions. However, the undisputed evidence in the record now shows that all air emissions from this project will fully comply with applicable air quality laws and requirements, as reflected in the FDOC issued by South Coast Air Quality Management District (SCAQMD) in this case. (*See* Staff's Direct Written Testimony, January 22, 2003, at pp. 12 and 16). Hence, the only remaining legal issue is whether the "excess" emissions from this project will cause significant unmitigated impacts, contrary to the requirements of CEQA.

The evidence in this case is clear. The "excess" emissions produced by this project *alone* will not be large enough, when viewed in isolation, to *directly* cause any adverse health impacts by violating federal or state air quality standards. However, these "excess" emissions could cause significant *cumulative* adverse impacts when added to

other similar emissions now occurring throughout this non-attainment region (i.e., the South Coast Air Basin). (*See, e.g.,* Staff's Written Response Testimony, February 10, 2003, at p. 41; and RT 2/19/03, Mr. Joe Loyer, at pp. 428-429).

In this case, however, SCAQMD has now confirmed that it will fully offset any and all excess air emissions allowed under its FDOC for this project by retiring equivalent or greater emissions from its community emissions bank. (*See, e.g.,* Staff's Direct Written Testimony, January 22, 2003, at p. 13; and Staff's Written Response Testimony, February 10, 2003, at p. 45). CEQA expressly provides that regional air quality programs, such as SCAQMD's emissions trading program, can be used to address cumulative impacts from a project such as this one. (*See. e.g.,* Title 14, Cal. Code Regs., Section 15064(i)(3); and RT 2/19/03, Mr. Joe Loyer, at pp. 429-430).

Finally, there is no evidence in the record to show that the emissions from this particular project, as fully offset and mitigated under SCAQMD's rules, will cause any adverse impacts beyond existing conditions. To the contrary, the evidence shows that PM10-related air quality in the South Coast Air Basin generally, and at the nearby Hawthorne monitoring station in particular, has been steadily improving under the offset-banking program administered by SCAQMD. (*See* Staff's Written Response Testimony, February 10, 2003, at p. 41). Accordingly, the evidence in this case fully supports the conclusion that with regard to air quality, this project will comply with all applicable laws and with the requirements of CEQA as well.

B. This Project Will Comply With All Laws and CEQA Concerning Public Health

Based on the same "excess" emissions discussed in the "Air Quality" section of this Opening Brief, above, some Intervenors have raised concerns about the "public health" impacts of the proposed project. However, because of the complete offsets which SCAQMD now proposes to provide for these emissions from its community bank, the evidence proves that this project will not violate any applicable "public health" laws or CEQA requirements. (*See* Staff's Written Response Testimony, February 10, 2003, at pp. 49-51; and RT 2/19/03, Dr. Obed Odoemelam, at pp. 467-468 and 474-475). Indeed, there is no evidence in the record which proves that the project's emissions will cause any "public health" problems whatsoever.

C. This Project Will Comply With All Laws and CEQA Concerning Socioeconomics

Certain Intervenors have also asserted that the air emissions from the proposed project could cause adverse socioeconomic impacts by hurting property values in the community. However, the evidence in this case does not support the claim of any adverse socioeconomic impacts from increased air pollution in this case, and the emissions from this project will be fully mitigated in any event. (*See,* Staff's Written Response Testimony, February 10, 2003, at pp.51-54; and RT, 2/20/03, Mr. Michael Fajans, at pp. 21-22).

III. CONCLUSIONS CONCERNING THIS PROJECT

With regard to "Biological Resources" and related "Alternatives," the proposed El Segundo Repower Project does not comply with the requirements of CEQA, the California Coastal Act or other provisions law. As such, the request for certification of this project should not be approved at this time, and the Applicant should be directed to either: (a) file an amended AFC proposing to implement the Hyperion wastewater cooling alternative; or (b) file supplemental information containing (i) a proper "monthly" cap for *every month of the year*; and (ii) a reliable site-specific entrainment study; and (iii) all feasible avoidance and/or mitigation measures needed to maintain, restore and enhance the marine resources of Santa Monica Bay, consistent with the study's findings.

Dated: May 12, 2003

Respectfully submitted,

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